CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

TO: Water Board Managers and Staff

[redacted]

FROM: Renee Spears, SWRCB Quality Assurance Officer

OFFICE OF INFORMATION MANAGEMENT AND ANALYSIS

DATE: April X, 2015

SUBJECT: Withdrawal of Approval of the SWRCB Alternative Test Procedure for the Two Concentration Test Design for NPDES Effluent testing when using the TST

The purpose of this memo is to inform you of the February 11, 2015 notice of [redacted] the United States Environmental Protection Agency's (U.S. EPA) approval of the State Water Resources Control Board's (State Water Board) Alternative Test Procedure (ATP) request. U.S. EPA had approved the request to use the two-concentration test design when using the Test of Significant Toxicity (TST). This memo includes our interpretation of the withdrawal and its ramifications for the Water Boards' permitting process requirements.

History and Timeline

In a letter dated February 12, 2014, the SWRCB Quality Assurance Officer, Renee Spears, submitted an ATP request to U.S. EPA Region 9 for the statewide use of a two-concentration toxicity test design when using the Test of Significant Toxicity (TST) approach (Attachment 1). This two-concentration test design is composed of a single effluent concentration and a control concentration.

The TST statistical analysis only requires the results from using the two concentration test design for toxicity analysis. Currently the multiple-concentration test design (a minimum of five effluent concentrations compared to a control concentration) is required under Code of Federal Regulations, title 40, section 136.3. The two-concentration test design is more cost effective when using the TST since, at a minimum, the number of concentrations necessary is reduced by four (including all their replicates).

[redacted] will standardize the regulation of aquatic toxicity for all non-oceanic surface waters. U.S. EPA's TST approach is an essential component of this draft toxicity amendment as it forms the basis for utilizing numeric water quality objectives and acts as the primary means of determining compliance with the proposed effluent limitations. It provides a definitive value of whether a sample is toxic versus an interpreted (and debatable) value as found in the NOEC and IC_{25} approaches.

U.S. EPA approved the ATP request on March 17th 2014 (Attachment 2). In June 2014, the approval was challenged in court on procedural grounds under the Administrative Procedures Act by the Southern California Alliance of Publicly Owned Treatment Works (SCAP) and the Central Valley Clean Water Association

(CVCWA). After nine months of legal interaction, the U.S. EPA made the decision to withdraw the approval (Attachment 3). It should be noted that the U.S. EPA withdrawal memo erroneously refers to the two-concentration test design as "two effluent concentrations plus a control." The actual design uses one effluent concentration plus a control (which, by definition, is an effluent concentration of zero.)

Reasons for Withdrawal

The three reasons for withdrawal, as described [redacted] statistical analysis or the scientific validity of a two concentration test design. There is no reference to the scientific validity of either the two concentration test design or the TST, which is significant.
The rejection letter also states that currently there is a proposed rulemaking to change the language in the ATP regulations at Code of Federal Regulations, title 40, section 136. Until that occurs, we do not see the value in re-submittal of the ATP request.

What Does this Mean for the Water Boards?

There is confusion regarding what test design can or cannot be required or used in the permitting process. The following sections help provide clarification when determining what is required and what is discretionary.

Test Design

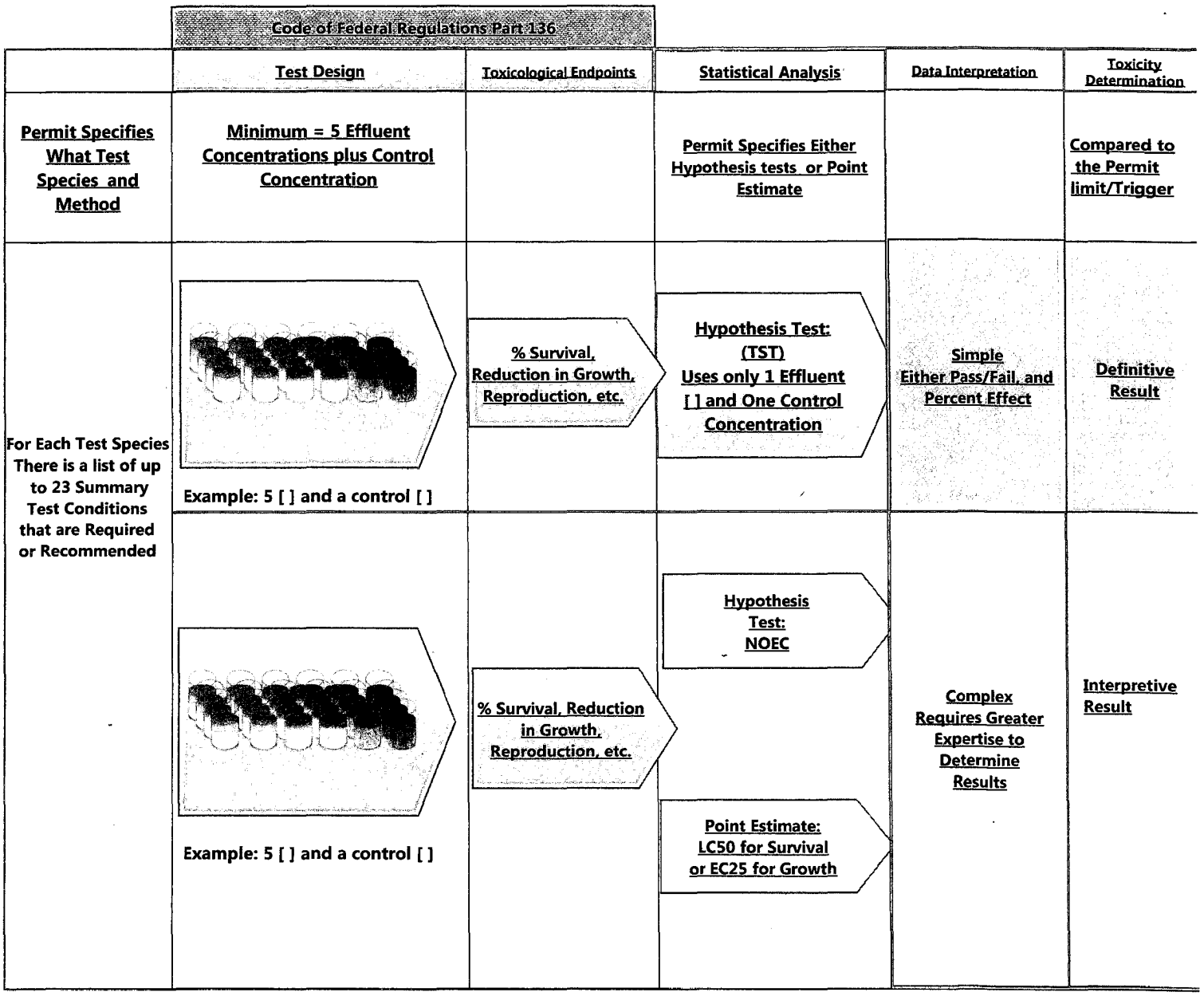
Based on the withdrawal of the ATP approval, the following chart (Table 1) shows where you [redacted] includes storm water, Non-point source programs, and the Surface Water Ambient Monitoring Program (SWAMP) studies.

Table 1. Test Design Requirements for NPDES Permits

Method	Must conduct a minimum of 5 concentrations and a control	May [redacted] 1 c[redacted]
Chronic Freshwater Test species (U.S. EPA 2002a[1])	Effluent	
Acute Freshwater or Marine test species (U.S. EPA. 2002b[1])	Effluent	Storm Water Receiving Water
Chronic East Coast Marine Test species (U.S. EPA 2002c[1])	Effluent	Storm Water Receiving Water

[1]Note: According to U.S. EPA test methods (U.S. EPA 2002a, 2002b, 2002c), under the "Summary of Test Conditions and Test Acceptability Criteria for Daphnid, *Ceriodaphnia dubia*, survival and reproduction Toxicity Tests with Effluents and Receiving Waters" --- there is testing condition listed as "test concentrations":
"Effluents: 5 and a control (required minimum)
Receiving Waters: 100% receiving water (or minimum of 5) and a control (recommended)"

Figure 1. Toxicity Testing and Analysis Pathways for NPDES Permits Requiring the Multiple Concentration Test Design



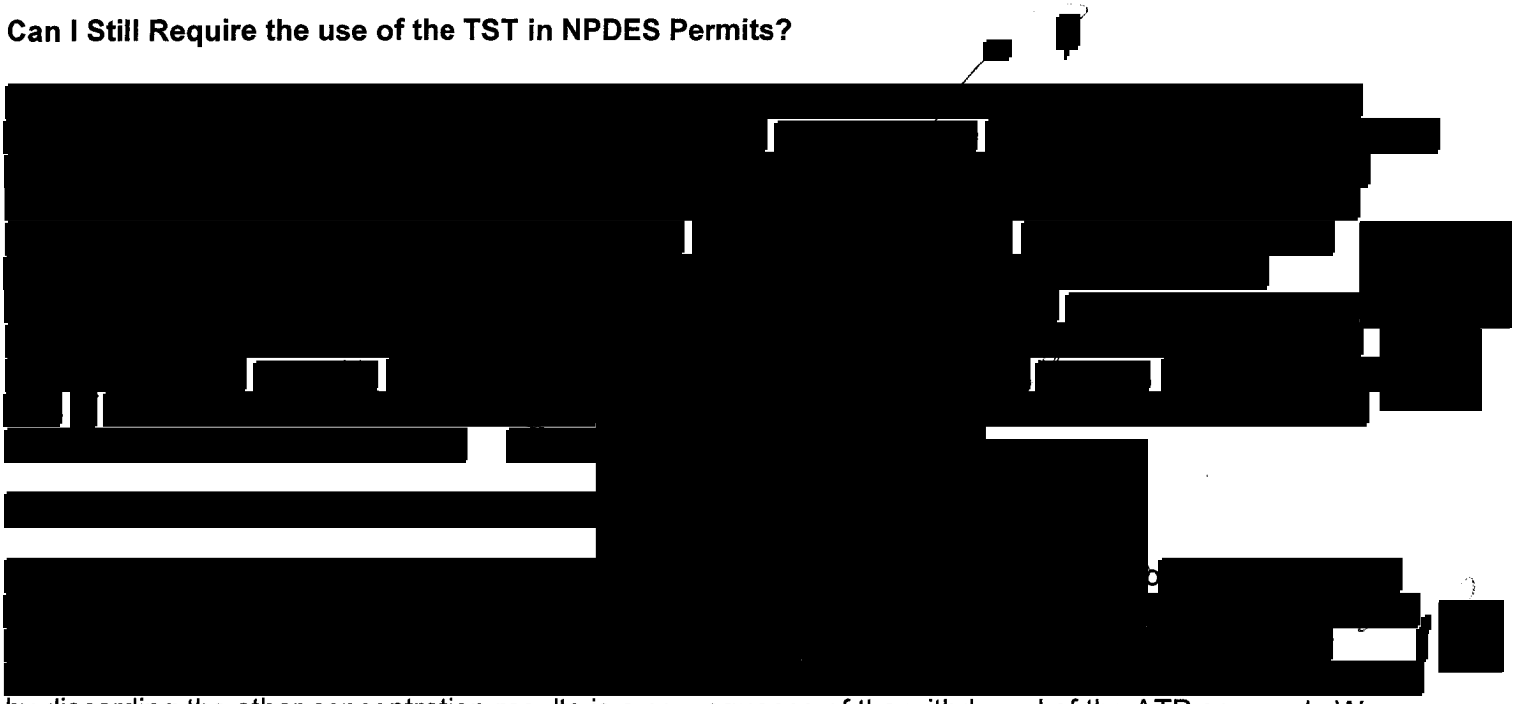
What is Required and What is Discretionary Within the Permit?

For those permits [redacted] test species and method to be used.

2. The multiple-concentration test [redacted] required under Code of Federal Regulations, title 40, section [redacted]

4. The permit specifies the statistical analysis, such as:
   a. A hypothesis test using the TST.
   b. A hypothesis test using the NOEC.
   c. A point estimate test using LC50 or EC25.

Can I Still Require the use of the TST in NPDES Permits?



by discarding the other concentration results is a consequence of the withdrawal of the ATP approval. We submitted the ATP to gain approval for the most cost effected test design needed for the TST analysis.

Additional Information

For additional information please contact Ms. Renee Spears, SWRCB QA Officer at (916) 341-5583, or Renee.Spears@waterboards.ca.gov.

References:

USEPA. 2002a. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms. Fourth Edition. Office of Water, Washington, DC. EPA/821/R-02/013.

USEPA. 2002b. Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms. Fifth Edition. Office of Water, Washington, DC. EPA/821/R-02/012.

USEPA. 2002c. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to marine and estuarine organisms. Third Edition. Office of Water, Washington, DC. EPA/821/R-02/014.

Attachments:

1. ATP Request to Dr. Eugenia McNaughton February 2014
2. ATP Approval Letter from EPA R9 March 2014
3. ATP approval withdrawal letter February 2015